

REMARKS

Claims 1-7 have been rejected under 35 USC 103(a) as unpatentable over U.S. Patent No. 6,590,335 (Nagayama) in view of U.S. Patent Publication No. 2002/0142697 (Yamagata) and U.S. Patent Publication No. 2002/0063844 (Matsuura). Applicants respectfully traverse this rejection.

Claim 1 recites irradiating with a laser beam a region of the display panel that is away from the foreign substance so that a high resistivity region is formed as a result of a melting by the laser beam of the electroluminescent layer between the anode layer and the cathode layer and around the foreign substance. Claim 1 also states that the laser beam is not directly incident on the detected foreign substance in the claimed method.

The Examiner admits that “Nagayama and Yamagata do not explicitly teach that the laser beam is not directly incident on the detected foreign substance.” See page 2 of the Action. However, the Examiner contends that “Yamagata does teach that the laser beam repair method can be done by physically separating the short circuit location of the defect portion with laser irradiation [0059] while Matsuura teaches that it was well known to use laser to form a cut area around a portion of the substrate in order to isolate that portion.” Based on these findings, the Examiner alleges that it would have been obvious to modify Nagayama’s laser irradiation to arrive at the claimed invention. Applicants respectfully disagree.

First, the Examiner’s reading of Yamagata is not proper. It is true that Yamagata states in paragraph [0059] that a method of oxidation and “a method of making an insulator by physically separating the short circuit location of the defect portion 207 with laser irradiation, exist as a method of turning the defect portion 207 into an insulator.” However, persons of ordinary skill in the art would have understood that this passage of Yamagata means that Yamagata’s defect portion 207 is taken out to turn that portion into an insulator, i.e., a vacant space. In order to laser-ablate defect portion 207, Yamagata’s laser 224 must be directly incident on defect portion 207, as shown in Yamagata’s FIG. 2B. In fact, Yamagata repeatedly states that Yamagata’s insulator is formed by “irradiating a laser to the determined defect portions.” See, for example,

paragraphs [0028], [0058] and [0081] of Yamagata. Accordingly, Yamagata only teaches that Yamagata's laser beam must be directly incident on Yamagata's defect portion.

Second, persons of ordinary skill in the art would have had no reason to combine the teachings of Nagayama and Matsuura. Nagayama teaches a method of repairing a defective pixel in an EL display device. Specifically, Nagayama teaches irradiating with a laser only the defective portion of a defective pixel of the EL display device so that other portion of the defective pixel can emit light. See, for example, column 6, lines 1-8, of Nagayama. Matsuura, on the other hand, teaches a method of repairing a defective LCD device. Specifically, Matsuura teaches that the entire pixel having a defect must be turned off so that that pixel does not emit light by disconnecting a FET switch from a LCD pixel having the defect. This disconnection is made by laser irradiation relied upon by the Examiner. See, for example, paragraph [0026] of Matsuura.

Matsuura's laser irradiation is for disconnecting an FET switch from a defective pixel. Persons of ordinary skill in the art would not have incorporated Matsuura's laser irradiation into Nagayama's method because such a modification would have darkened the entire EL pixel of Nagayama, contrary to Nagayama's teaching that the rest of the defective pixel should be used to emit light.

Even if Nagayama's switch had been disconnected from its EL pixel by laser irradiation based on Matsuura's teaching, such a method would not have resulted in the claimed invention, because cutting the wiring connection between the FET switch and the EL pixel does not meet the limitation that a high resistivity region is formed as a result of a melting of the electroluminescent layer. Applicants remind the Examiner that no EL layer would be melted as a result of cutting wiring connection between the FET switch and the EL pixel.

The rejection of claims 1-7 under 35 USC 103(a) over Nagayama, Yamagata and Matsuura should be withdrawn because they do not teach or suggest the claimed invention as a whole.


The remaining obviousness rejection relies on Nagayama, Yamagata and Matsuura and thus should be withdrawn as well because Nagayama, Yamagata and Matsuura do not provide the teachings for which they are cited.

In light of the above, a Notice of Allowance is solicited.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952**, referencing Docket No. **606402016100**.

Respectfully submitted,

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